

# Electronic Connector Manufacturing: 2002

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## 2002 Economic Census

*Manufacturing*

Industry Series



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U.S. Department of Commerce  
Economics and Statistics Administration  
U.S. CENSUS BUREAU



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-- Not applicable for this report.

**Table 1. Historical Statistics for the Industry: 2002 and Earlier Years**

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry and year <sup>1</sup>	Com- panies <sup>2</sup>	All estab- lish- ments <sup>3</sup>	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expendi- tures (\$1,000)	
			Number <sup>4</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)					
334417, Electronic connector manufacturing .....	2002..	281	321	24 639	920 929	17 533	34 550	533 347	2 263 991	1 282 623	3 597 548	'144 720
2001..	N	N	N	33 866	1 245 028	24 000	45 915	725 879	3 142 242	1 777 665	4 989 474	274 226
2000..	N	N	N	34 347	1 234 381	25 715	53 615	772 579	4 112 138	2 052 457	6 120 190	301 473
1999..	N	N	N	32 844	1 128 374	24 211	50 242	673 711	3 533 712	1 591 263	5 125 317	237 204
1998..	N	N	N	39 358	1 187 395	27 586	56 573	723 503	3 706 797	1 619 264	5 325 652	338 160
1997..	281	344	N	37 589	1 171 568	27 772	56 160	717 464	3 788 056	1 766 881	5 550 540	233 327

<sup>1</sup>Statistics presented for years ending in 2 and 7 are census data. Interim census years are derived in a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures (ASM).

<sup>2</sup>For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

<sup>3</sup>Includes establishments with payroll at any time during the year.

<sup>4</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

**Table 2. Industry Statistics for Selected States: 2002**

[States that are a disclosure or with less than 100 employees are not shown. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E <sup>1</sup>	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>3</sup>	Hours (1,000)	Wages (\$1,000)				
<b>334417, Electronic connector manufacturing</b>												
United States .....	—	321	170	24 639	920 929	17 533	34 550	533 347	2 263 991	1 282 623	3 597 548	144 720
California .....	—	98	60	8 276	303 514	5 924	12 216	173 051	605 677	394 139	1 014 291	32 541
Connecticut .....	1	9	6	506	22 603	299	598	9 640	42 214	49 411	93 762	1 707
Florida .....	—	14	9	615	19 534	460	833	11 941	41 251	19 791	61 680	3 045
Illinois .....	1	15	8	868	29 234	582	1 081	15 061	66 095	40 813	109 446	2 830
Massachusetts .....	1	18	10	775	29 133	510	1 070	14 852	67 349	28 820	97 735	955
Michigan .....	4	7	1	180	4 801	84	170	2 702	9 232	2 777	12 198	129
Minnesota .....	—	11	7	416	19 670	295	632	12 383	94 285	61 143	160 565	1 117
Missouri .....	1	4	1	443	9 915	313	616	4 924	19 437	5 201	25 171	818
New Jersey .....	1	13	5	341	12 177	203	405	4 874	24 850	12 732	36 922	1 566
New York .....	—	14	7	2 032	87 203	1 556	3 120	60 010	258 084	94 226	354 374	5 434
Pennsylvania .....	—	20	15	3 039	122 894	2 050	3 900	65 555	251 545	159 899	420 743	55 167
Virginia .....	2	5	1	123	5 392	59	109	1 922	11 134	3 915	15 202	359

<sup>1</sup>Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

<sup>2</sup>Includes establishments with payroll at any time during the year.

<sup>3</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

**Table 3. Detailed Statistics by Industry: 2002**

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Item	Value
<b>334417, Electronic connector manufacturing</b>	
Companies <sup>1</sup> .....	number.. 281
All establishments <sup>2</sup> .....	number.. 321
Establishments with 1 to 19 employees .....	number.. 151
Establishments with 20 to 99 employees .....	number.. 99
Establishments with 100 employees or more .....	number.. 71
All employees <sup>3</sup> .....	number.. 24 639
Total compensation .....	\$1,000.. 1 132 765
Annual payroll .....	\$1,000.. 920 929
Total fringe benefits .....	\$1,000.. 211 836
Production workers, average for year .....	number.. 17 533
Production workers on March 12 .....	number.. 17 930
Production workers on May 12 .....	number.. 17 632
Production workers on August 12 .....	number.. 17 340
Production workers on November 12 .....	number.. 17 200
Production worker hours .....	1,000.. 34 550
Production worker wages .....	\$1,000.. 533 347
Total cost of materials .....	\$1,000.. 1 282 623
Materials, parts, containers, packaging, etc., used .....	\$1,000.. 1 078 024
Resales .....	\$1,000.. 78 310
Purchased fuels .....	\$1,000.. 6 293
Purchased electricity .....	\$1,000.. 35 765
Contract work .....	\$1,000.. 84 231
Quantity of electricity purchased for heat and power .....	1,000 kWh.. 451 768
Quantity of electricity generated less sold for heat and power .....	1,000 kWh.. -
Total value of shipments .....	\$1,000.. 3 597 548
Primary products value of shipments .....	\$1,000.. 3 260 754
Secondary products value of shipments .....	\$1,000.. 233 224
Total miscellaneous receipts .....	\$1,000.. 103 570
Value of resales .....	\$1,000.. 91 636
Contract receipts .....	\$1,000.. 9 470
Other miscellaneous receipts .....	\$1,000.. 2 464
Primary products specialization ratio .....	percent.. 93
Value of primary products shipments made in all industries .....	\$1,000.. 3 803 563
Value of primary products shipments made in this industry .....	\$1,000.. 3 260 754
Value of primary products shipments made in other industries .....	\$1,000.. 542 809
Coverage ratio .....	percent.. 86
Value added .....	\$1,000.. 2 263 991
Total inventories, beginning of year .....	\$1,000.. 663 193
Finished goods inventories .....	\$1,000.. 176 272
Work-in-process inventories .....	\$1,000.. 170 141
Materials and supplies inventories .....	\$1,000.. 316 780
Total inventories, end of year .....	\$1,000.. 602 905
Finished goods inventories .....	\$1,000.. 146 958
Work-in-process inventories .....	\$1,000.. 148 521
Materials and supplies inventories .....	\$1,000.. 307 426
Gross value of depreciable assets (acquisition costs) at beginning of year .....	\$1,000.. '2 106 898
Total capital expenditures (new and used) .....	\$1,000.. '144 720
Buildings and other structures (new and used) .....	\$1,000.. '7 378
Machinery and equipment (new and used) .....	\$1,000.. '137 342
Automobiles, trucks, etc., for highway use .....	\$1,000.. '2 160
Computers and peripheral data processing equipment .....	\$1,000.. '9 002
All other expenditures for machinery and equipment .....	\$1,000.. '126 180
Total retirements .....	\$1,000.. '168 283
Gross value of depreciable assets at end of year .....	\$1,000.. '2 083 335
Depreciation charges during year .....	\$1,000.. '122 767
Total rental payments .....	\$1,000.. 43 854
Buildings and other structures .....	\$1,000.. 33 465
Machinery and equipment .....	\$1,000.. 10 389
Total other expenses <sup>4</sup> .....	\$1,000.. 202 066
Response coverage ratio <sup>5</sup> .....	percent.. 74
Repair and maintenance services of buildings and/or machinery <sup>4</sup> .....	\$1,000.. 27 858
Communications services <sup>4</sup> .....	\$1,000.. 6 677
Legal services <sup>4</sup> .....	\$1,000.. 1 819
Accounting, auditing, and bookkeeping services <sup>4</sup> .....	\$1,000.. 2 209
Advertising and promotional services <sup>4</sup> .....	\$1,000.. 9 282
Expensed computer hardware and supplies and purchased computer services <sup>4</sup> .....	\$1,000.. 2 656
Refuse removal (including hazardous waste) services <sup>4</sup> .....	\$1,000.. 7 057
Management consulting and administrative services <sup>4</sup> .....	\$1,000.. 4 843
Taxes and license fees <sup>4</sup> .....	\$1,000.. 7 359
All other expenses <sup>4</sup> .....	\$1,000.. 132 305

<sup>1</sup>For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

<sup>2</sup>Includes establishments with payroll at any time during the year.

<sup>3</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

<sup>4</sup>Based on 2002 Annual Survey of Manufactures (ASM) sample data.

<sup>5</sup>A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those Annual Survey of Manufactures (ASM) establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note 1: The amounts shown for other expenses reflect only those services that establishments purchase from other companies.

Note 2: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

**Table 4. Industry Statistics by Employment Size: 2002**

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Employment size class	E <sup>1</sup>	All establishments <sup>2</sup>	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>3</sup>	Hours (1,000)	Wages (\$1,000)				
334417, Electronic connector manufacturing											
All establishments .....	—	321	24 639	920 929	17 533	34 550	533 347	2 263 991	1 282 623	3 597 548	'144 720
Establishments with—											
1 to 4 employees .....	9	62	136	4 856	106	195	3 387	11 806	5 173	16 979	'301
5 to 9 employees .....	7	32	223	8 583	169	343	5 757	21 000	10 512	31 531	'726
10 to 19 employees .....	7	57	789	30 339	619	1 188	20 663	55 387	62 838	117 755	'1 920
20 to 49 employees .....	2	64	2 015	71 605	1 386	2 618	41 008	194 464	75 245	275 362	'7 174
50 to 99 employees .....	1	35	2 337	90 413	1 544	3 056	47 695	220 654	151 322	381 783	'14 646
100 to 249 employees .....	—	46	6 962	248 049	4 761	9 578	134 157	525 452	343 537	878 076	'19 974
250 to 499 employees .....	—	19	7 053	255 687	4 899	9 975	142 482	636 677	406 415	1 071 561	66 477
500 to 999 employees .....	—	3	g	D	D	D	D	D	D	D	D
1,000 to 2,499 employees .....	—	3	h	D	D	D	D	D	D	D	D
2,500 employees or more .....	—	—	—	—	—	—	—	—	—	—	—
Administrative records <sup>4</sup> .....	9	114	820	32 258	664	1 312	23 366	83 263	37 489	120 752	'2 172

<sup>1</sup>Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

<sup>2</sup>Includes establishments with payroll at any time during the year.

<sup>3</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

<sup>4</sup>Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

**Table 5. Industry Statistics by Primary Product Class Specialization: 2002**

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry or product class code	Industry or primary product class	All establishments <sup>1</sup>	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number <sup>2</sup>	Payroll (\$1,000)	Number <sup>2</sup>	Hours (1,000)	Wages (\$1,000)				
334417	Electronic connector manufacturing . . .	321	24 639	920 929	17 533	34 550	533 347	2 263 991	1 282 623	3 597 548	'144 720
3344171	Coaxial (RF) connectors for electronic circuitry . . . . .	35	3 613	130 237	2 612	4 877	75 752	304 207	158 783	474 604	'8 804
3344174	Cylindrical connectors for electronic circuitry . . . . .	14	4 164	129 040	3 244	6 768	89 542	302 099	220 507	538 632	'7 345
3344177	Rack and panel (rectangular) connectors for electronic circuitry . .	15	2 174	88 466	1 599	3 069	40 861	137 504	138 862	277 905	12 575
334417A	Printed circuit connectors for electronic circuitry . . . . .	31	4 216	165 055	2 996	5 895	99 119	525 816	222 359	757 000	'45 280
334417D	Other connectors for electronic circuitry, including parts . . . . .	69	8 426	331 327	5 462	10 849	174 289	820 683	470 348	1 302 932	'64 162

<sup>1</sup>Includes establishments with payroll at any time during the year.

<sup>2</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

**Table 6a. Products Statistics: 2002 and 1997**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)
334417	Electronic connector manufacturing .....	2002.. N	X	X	3 803 563
	1997.. N		X	X	5 652 449
3344171	Coaxial (RF) connectors for electronic circuitry .....	2002.. N	X	X	485 535
	1997.. N		X	X	676 224
33441711	Coaxial (RF) connectors for electronic circuitry .....	2002.. N	X	X	485 535
	1997.. N		X	X	676 224
3344171100	Coaxial (RF) connectors for electronic circuitry <sup>1</sup> .....	2002.. 54	X	X	485 535
	1997.. 45		X	X	676 224
3344174	Cylindrical connectors for electronic circuitry .....	2002.. N	X	X	530 666
	1997.. N		X	X	602 702
33441741	Cylindrical connectors for electronic circuitry .....	2002.. N	X	X	530 666
	1997.. N		X	X	602 702
3344174100	Cylindrical connectors for electronic circuitry <sup>1</sup> .....	2002.. 25	X	X	530 666
	1997.. 33		X	X	602 702
3344177	Rack and panel (rectangular) connectors for electronic circuitry .....	2002.. N	X	X	283 749
	1997.. N		X	X	579 598
33441771	Rack and panel (rectangular) connectors for electronic circuitry .....	2002.. N	X	X	283 749
	1997.. N		X	X	579 598
3344177100	Rack and panel (rectangular) connectors for electronic circuitry <sup>1</sup> .....	2002.. 36	X	X	283 749
	1997.. 28		X	X	579 598
334417A	Printed circuit connectors for electronic circuitry .....	2002.. N	X	X	788 180
	1997.. N		X	X	1 353 679
334417A1	Printed circuit connectors for electronic circuitry .....	2002.. N	X	X	788 180
	1997.. N		X	X	1 353 679
334417A100	Printed circuit connectors for electronic circuitry <sup>1</sup> .....	2002.. 39	X	X	788 180
	1997.. 43		X	X	1 353 679
334417D	Other connectors for electronic circuitry, including parts .....	2002.. N	X	X	1 495 724
	1997.. N		X	X	2 162 527
334417D1	Other connectors for electronic circuitry, including parts .....	2002.. N	X	X	1 495 724
	1997.. N		X	X	2 162 527
334417D100	Other connectors for electronic circuitry, including parts <sup>1</sup> .....	2002.. 90	X	X	1 495 724
	1997.. 103		X	X	2 162 527
334417W	Electronic connector manufacturing, nsk, total .....	2002.. N	X	X	219 709
	1997.. N		X	X	277 719
334417WY	Electronic connector manufacturing, nsk, total .....	2002.. N	X	X	219 709
	1997.. N		X	X	277 719
334417WYWW	Electronic connector manufacturing, nsk, for nonadministrative-record establishments .....	2002.. N	X	X	91 328
	1997.. N		X	X	192 130
334417WYWY	Electronic connector manufacturing, nsk, for administrative-record establishments .....	2002.. N	X	X	128 381
	1997.. N		X	X	85 589

<sup>1</sup>For additional detail, see Current Industrial Report MA334Q, Semiconductors and Electronic Components.

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p-10 to 19 percent estimated; q-20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.



**Table 6b. Product Class Shipments for Selected States: 2002 and 1997**

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 2002. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographic definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)
3344171	Coaxial (RF) connectors for electronic circuitry	
	United States .....	2002 .. 485 535
		1997 .. 676 224
	California .....	2002 .. 58 986
		1997 .. 37 635
	Connecticut .....	2002 .. 51 968
		1997 .. 112 325
	Florida .....	2002 .. 22 350
3344174	Cylindrical connectors for electronic circuitry	
	United States .....	2002 .. 530 666
		1997 .. 602 702
	California .....	2002 .. 261 192
		1997 .. 275 855
3344177	Rack and panel (rectangular) connectors for electronic circuitry	
	United States .....	2002 .. 283 749
		1997 .. 579 598
	California .....	2002 .. 117 193
		1997 .. 122 378
	Pennsylvania .....	2002 .. 67 121
		1997 .. N
334417A	Printed circuit connectors for electronic circuitry	
	United States .....	2002 .. 788 180
		1997 .. 1 353 679
	California .....	2002 .. 54 164
		1997 .. 24 613
	New York .....	2002 .. 40 786
		1997 .. 22 210
334417D	Other connectors for electronic circuitry, including parts	
	United States .....	2002 .. 1 495 724
		1997 .. 2 162 527
	California .....	2002 .. 478 325
		1997 .. 407 985
	Connecticut .....	2002 .. 6 163
		1997 .. N
	Florida .....	2002 .. 14 127
		1997 .. 43 935
	Illinois .....	2002 .. 68 332
		1997 .. 65 483
	Massachusetts .....	2002 .. 111 004
		1997 .. 98 764
	New Jersey .....	2002 .. 18 564
		1997 .. 89 746
	New York .....	2002 .. 83 698
		1997 .. 64 523
	Texas .....	2002 .. 18 205
		1997 .. N

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

**Table 7. Materials Consumed by Kind: 2002 and 1997**

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Material code	Material consumed	Quantity	Delivered cost (\$1,000)
334417	Electronic connector manufacturing		
00900001	Total materials .....2002..	X	1 078 024
	.....1997..	X	1 553 974
32721203	Tube blanks .....2002..	X	D
	.....1997..	X	—
33441200	Printed circuit boards (without inserted components) for electronic circuitry.....2002..	X	12 701
	.....1997..	X	12 775
001900C4	Printed circuit assemblies, loaded boards, and modules (printed circuit boards with inserted electronic components) .....2002..	X	30 415
	.....1997..	X	21 762
33441300	Semiconductors (including transistors, diodes, rectifiers, and integrated circuits), for electronic circuitry .....2002..	X	D
	.....1997..	X	D
33441400	Capacitors for electronic circuitry .....2002..	X	2 220
	.....1997..	X	14 314
33441500	Resistors for electronic circuitry .....2002..	X	D
	.....1997..	X	1 009
001900D3	All other miscellaneous components and accessories, for electronic circuitry (excluding tubes) .....2002..	X	175 349
	.....1997..	X	27 232
32518835	Silicon, hyperpure .....2002..	X	D
	.....1997..	X	—
33141911	Gold and other precious metals, all forms (including ingot, sheet, strip, solder, plating, electrodes, etc.) .....2002..	X	60 229
	.....1997..	X	157 386
33141917	Doped chemicals and other doped materials for electronic use .....2002..	X	144
	.....1997..	X	291
33111107	Ferrites (powder and paste) .....2002..	X	D
	.....1997..	X	172
331000AA	Metal powders .....2002..	X	D
	.....1997..	X	D
33411001	Electronic computer equipment .....2002..	X	232
	.....1997..	X	N
33593101	Current-carrying wiring devices .....2002..	X	8 283
	.....1997..	X	9 594
33422001	Electronic communication equipment .....2002..	X	D
	.....1997..	X	D
33451501	Electrical instrument mechanisms and meter movements (including instrument relays) .....2002..	X	D
	.....1997..	X	160
33451503	All other miscellaneous electrical measuring instruments and parts .....2002..	X	D
	.....1997..	X	N
33531211	Fractional horsepower electric motors (less than 1 hp) .....2002..	X	D
	.....1997..	X	N
001900B1	Electrical transmission, distribution, and control equipment .....2002..	X	562
	.....1997..	X	N
32720003	Glass and glass products (excluding windows and mirrors) .....2002..	X	369
	.....1997..	X	N
33331401	Optical instruments and lenses (excluding sighting, tracking, and fire control) .....2002..	X	D
	.....1997..	X	D
32521105	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc. ....2002..	X	42 370
	.....1997..	X	107 373
32610011	Fabricated plastics products (excluding gaskets) .....2002..	X	41 074
	.....1997..	X	81 380
332000A9	Sheet metal products (excluding stampings) .....2002..	X	13 533
	.....1997..	X	4 681
332000AC	Metal stampings .....2002..	X	22 235
	.....1997..	X	51 270
33272203	Metal bolts, nuts, screws, washers, rivets, and other screw machine products .....2002..	X	66 481
	.....1997..	X	71 363
33200033	Other fabricated metal products (excluding forgings) .....2002..	X	38 871
	.....1997..	X	82 214
33210000	Forgings .....2002..	X	D
	.....1997..	X	N
33100035	Castings, rough and semifinished .....2002..	X	4 495
	.....1997..	X	12 928
33120001	Steel shapes and forms (excluding castings, forgings, and fabricated metal products) .....2002..	X	23 865
	.....1997..	X	19 265
33142111	Copper and copper-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products) .....2002..	X	49 135
	.....1997..	X	67 769
33100038	Aluminum and aluminum-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products) .....2002..	X	44 679
	.....1997..	X	N
33100082	Other nonferrous metal shapes and forms (excluding aluminum and aluminum-base alloy and copper and copper-base alloy castings, forgings, and fabricated metal products) .....2002..	X	4 258
	.....1997..	X	N
331000A7	Insulated wire and cable (including magnet wire) .....2002..	X	32 996
	.....1997..	X	38 788
32220017	Paper and paperboard containers (including shipping sacks and other paper packaging supplies) .....2002..	X	15 273
	.....1997..	X	27 551
32611305	Resists (photosensitive resin films applied to the surface of a wafer) .....2002..	X	D
	.....1997..	X	D
32512005	Commodity gases .....2002..	X	D
	.....1997..	X	D
32518843	Specialty gases .....2002..	X	D
	.....1997..	X	D
32510074	Solvents .....2002..	X	198
	.....1997..	X	N
32561000	Cleaning compounds .....2002..	X	310
	.....1997..	X	N
00970099	All other materials and components, parts, containers, and supplies .....2002..	X	240 198
	.....1997..	X	395 122
00971000	Materials, ingredients, containers, and supplies, nsk .....2002..	X	59 888
	.....1997..	X	220 916

See footnotes at end of table.

Table 7. **Materials Consumed by Kind: 2002 and 1997—Con.**

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p-10 to 19 percent estimated; q-20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.